

Serial No. 10/042,894  
Amendment Dated January 20, 2006  
Reply to Office Action of July 28, 2005

### REMARKS/ARGUMENTS

Reconsideration of the present application is respectfully requested. With this amendment, claims 1, 3, 4, and 6-11 are pending.

Claim 1 has been amended. No new matter has been added by way of the amendment.

Claims 14-21 have been cancelled without prejudice or disclaimer. Applicant expressly reserves the right to file divisional applications or take such other appropriate measure deemed necessary to protect the subject matter of cancelled claims.

#### *Enablement*

Claims 1, 3-4, 6-11 and 14-21 are rejected under 35 USC §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The Office Action states: "The claims are drawn to an isolated nucleic acid comprising a polynucleotide encoding the polypeptide of SEQ ID NO:8 wherein the polypeptide has inositol polyphosphate kinase (IPPK) activity, or a polynucleotide having the sequence set forth in SEQ ID NO:7, or a polynucleotide which is complementary to said polynucleotide, vector, expression cassette, non-human host cell, and plant transformed therewith, and method for modulating inositol polyphosphate kinase activity in a host cell or plant and method of decreasing the level of phosphorous in non-ruminant animal waste, comprising transforming said host cell or plant with said polynucleotide."

The Office Action further asserts: "The Office interprets 'a polynucleotide which is complementary to a polynucleotide' to read on a large number of sequences because the recitation reads on as little two base pairs.... Because Applicants elected Group I drawn to nucleic acids in sense orientation and did not elect Group

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III drawn to antisense, the Office interprets this election to mean that Applicants' invention is drawn to over-expressing SEQ ID NO:7 in a plant to increase the activity of IPPK.... Applicants only disclosed the cloning of SEQ ID NO:7 encoding SEQ ID NO:8, but Applicants do not disclose the outcome of transforming said sequence into maize or any plant.... Applicants do not teach by way of example the use of the claimed sequences to modulate IPPK activity or levels."

The Office Action concludes: "Therefore, given the breadth of the claims; the lack of guidance and examples; the unpredictability in the art; and the state-of-the-art ...undue experimentation would be required to practice the claimed invention, and therefore the invention is not enabled."

Claim 1 has been amended. Claims 14-21 have been cancelled without prejudice or disclaimer. It is respectfully submitted that the rejection should not be applied to the present claims for the reasons described below.

Applicants respectfully disagree with the Office's interpretation of the term "complementary" to read on a large number of sequences because the recitation reads on as little two base pairs. Under 35 USC §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as *to enable any person skilled in the art* to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention. 35 USC §112 (2001) (emphasis added)

The Office interprets the term "complementary" in a manner that is repugnant to its standard usage in the art. For example, a complementary base sequence is defined in a standard science and technology dictionary as a "sequence of nucleotide bases in one strand of a DNA or RNA molecule that is *exactly complementary* ...to that on another strand." *Academic Press Dictionary of Science and Technology*, (1st ed. 1992) (emphasis added).

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However, to further prosecution and not to limit the scope of the claimed invention, claim 1 has been amended to omit the limitation of (c): "...a polynucleotide which is complementary to a polynucleotide of (a) or (b)."

The Office's interpretation of Applicant's election to Group I drawn to nucleic acids in sense orientation, and not to Group III drawn to antisense, to mean that Applicant's invention is to over-expression only of the claimed nucleic acid sequences, is unnecessarily limiting of Applicant's invention. The specification is clear that nucleic acids in the sense orientation are also capable of suppressing expression through sense suppression (see the specification, page 18, lines 9-13.

To further prosecution and not to limit the scope of the claimed invention, claims 14-21 have been cancelled without prejudice or disclaimer. Applicant expressly reserves the right to file divisional applications or take such other appropriate measure deemed necessary to protect the subject matter of cancelled claims.

In view of the above arguments and amendments, it is believed all grounds of rejection under 35 USC §112, have been obviated or overcome. Reconsideration and withdrawal of the rejection are therefore respectfully requested.

#### *Claim Rejections - 35 USC §102*

Claims 1, 3-4, and 6-11 are rejected under 35 USC §102 (b) as being anticipated by Van Ooijen *et al* (US Pat No: 5,593,963).

The Office Action states: "The claims are drawn to a polynucleotide which is complementary to a polynucleotide encoding the polypeptide of SEQ ID NO:8 or a polynucleotide having the sequence set forth in SEQ ID NO:7, a vector comprising said polynucleotide, an expression cassette comprising said polynucleotide operably linked to a promoter, a non-human host cell or plant comprising said polynucleotide, or wherein the plant is canola or a transgenic seed comprising said polynucleotide.... The Office interprets 'a polynucleotide which is complementary to

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a polynucleotide' to read on a large number of sequences because the recitation reads on as little two base pairs."

The Office Action further asserts: "Van Ooijen *et al* disclose an isolated nucleic acid sequence which comprises a complement sequence of Applicant' claimed sequences, as discussed above.... Van Ooijen *et al* also disclose transformed tobacco seeds comprising transforming tobacco seeds with a vector comprising said nucleic acid operably linked to a seed specific promoter and transformed rapeseed (canola) plants comprising said vector.... It would be inherent that the transformed rapeseed would produce transgenic seeds, and as such, Van Ooijen *et al* anticipate the claimed invention."

Claim 1 has been amended. Claims 3, 4, and 6-11 depend from claim 1. It is respectfully submitted that the rejection should not be applied to the present claims for the reasons described below.

The Office's interpretation of "a polynucleotide which is complementary to a polynucleotide" is believed to be incorrect for the reasons discussed above. However, not only does the nucleotide sequence of Van Ooijen bear no sequence identity to the complement of the presently claimed sequence, the nucleotide sequence of Van Ooijen does not function as an inositol polyphosphate kinase.

However, to further prosecution and not to limit the scope of the claimed invention, claim 1 has been amended to omit the limitation of (c): "...a polynucleotide which is complementary to a polynucleotide of (a) or (b)."

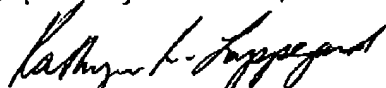
In view of the above arguments and amendments, it is believed all grounds of rejection under 35 USC §102, have been obviated or overcome. Reconsideration and withdrawal of the rejection are therefore respectfully requested.

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### CONCLUSION

It is believed that all the rejections have been obviated or overcome and the claims are in condition for allowance. Early notice to this effect is solicited. If in the opinion of the Examiner, a telephone conference would expedite the prosecution of the Application, the Examiner is invited to call the undersigned.

Respectfully submitted,



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